G3P R FAMILY - Starter Kit

User Manual

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Order Codes

Code	Frequency	Include
G3P-R-DVK	868 MHz	2x Board G3P-R Starter Kit 2x G3P-R232-868 2x G3P-RPPM-868 2x USB cables
G3P-R-DVK-433	433 MHz	2x Board G3P-R Starter Kit 2x G3P-R232-433 2x G3P-RPPM-433 2x USB cables

GENERAL FEATURES

The Starter Kit is a useful board to approach with the family R of the G3P modules.

Directly powered from the USB simplify the method of testing allowing with a laptop to move for wireless test.

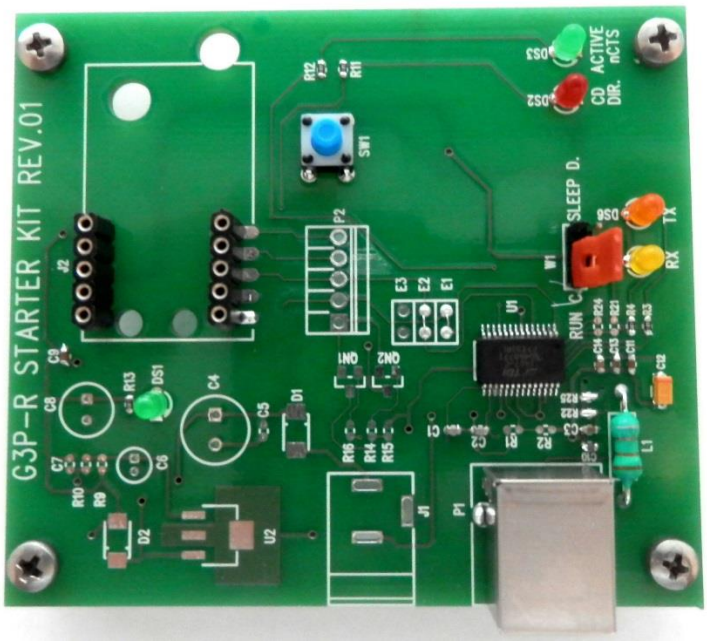
This board joined to the software G3P-Serial become a powerful tools to start to communicate wirelessly.

With the software, it is possible to perform an easy distance test.

The starter kit has USB to Serial converter to interface with the G3P modules asynchronous serial interface.

Key Features:

- Directly powered from the USB
- Leds to keep under control the status of the G3P module
- Jumper to select the sleep or run mode for the RPPM module, where the G3P module reduce its consumption to 2uA and for the R232 used to switch between command or data
- G3P module temperature range:
  - -40°C to +75°C

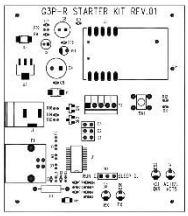


1 – Tools to begin

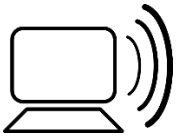
1.1 – Hardware

List of the indispensable hardware required to start:

- The Starter Kit board



- A computer with a USB connection



1.2 – Software and Driver

The serial terminal compatible for Window 7 and XP and the driver for the USB to serial converter

The G3P Serial:
http://www.g3p-modules.com/files/setup_g3p_serial_v1.0.3.6.zip

The FTDI driver:
http://www.ftdichip.com/FTDrivers.htm

1.3 – Other Documents

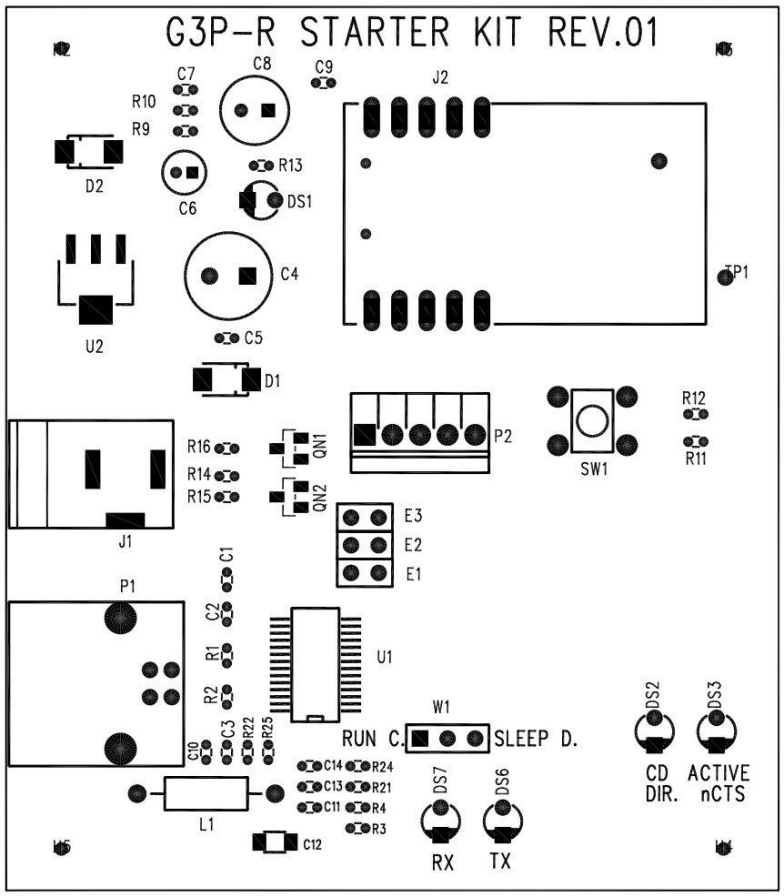
The manuals to configure the G3P modules

Wep pages with all link to the others G3P documents:
http://www.g3p-modules.com/ppm-stack.html
http://www.g3p-modules.com/rs232-485-stack.html

2 – Powering and cabling

2.1 – Connectors functions and top view

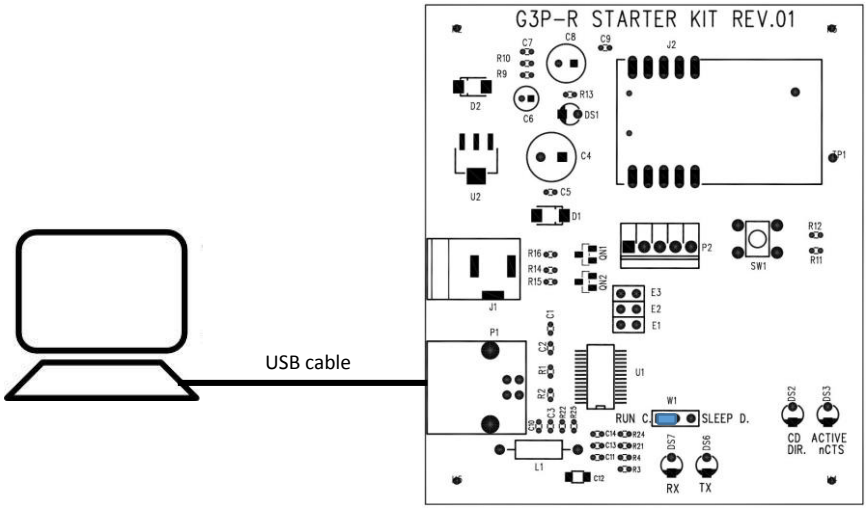
The G3P Starter Kit top view:



CONNECTOR	FUNCTION	DEFAULT	COMMENT
P1	It is the USB B connector used to connect the UART to a computer with the USB to serial converter.	Must be connected to supply power to the board and establish the serial communication	It has a FTDI chip
W1	Jumper to select the sleep mode for the RPPM module and the Command or Data with the R232 module.	On the run/cmd mode	For the RPPM module: when the sleep mode is set the G3P module will reduce its consumption to 2uA
SW1	Is the RESET button	-	Pressing the RESET button the G3P module will restart, if the setting has not been saved with the appropriate command then will be lost
J2	Are the two connector where connect the G3P module	G3P module must be connected	It is possible to connect the 2 different type of modules provided with the kit
DS1	Led wich indicate the board is powered up	It is on when the board is powerd up	It has to be on to start to work with the starter kit
DS2	Led used to indicate the CD (Carrier Detect Output) for the RPPM and the DIR (Direction signal for 485 drivers) for the R232	It is off	See the manuals of the G3P modules to understand the function
DS3	Led used to indicate the ACTIVE (Status of the module) for the RPPM and the nCTS (negated clear to send) for the R232	RPPM: It is on when active and off when is sleeping R232: it is off	See the manuals of the G3P modules to understand the function

2.2 – Cabling the Starter Kit board

Below a simple schematic to cable the G3P – Starter Kit board:



Then using the G3P Serial it is possible to communicate with the G3P module serial port.

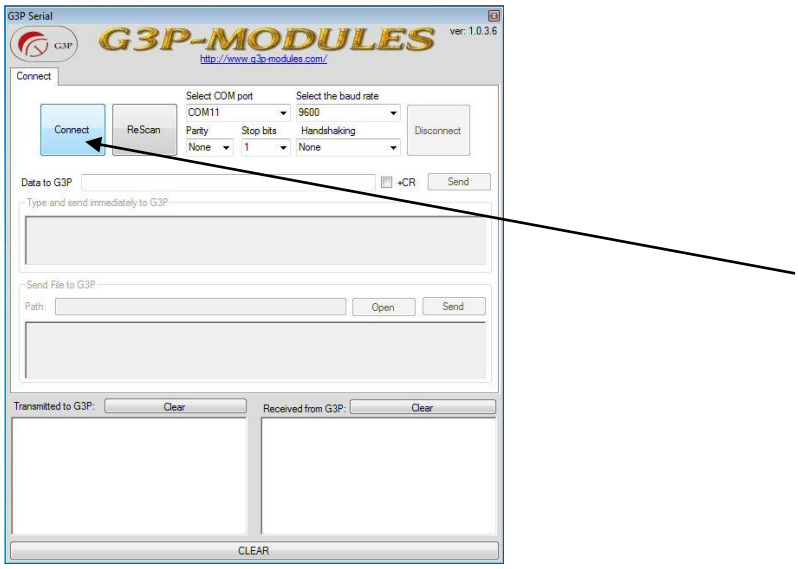
3 – Using the G3P Serial terminal

3.1 – Establish the serial connection

The Starter Kit board has an FTDI chip has USB to Serial converter, in case your computer does not have the appropriate driver visit the FTDI website (http://www.ftdichip.com/) to download and install the driver.

Then connect the USB cable to the Starter Kit board, immediately the Led “DS1” will be turned ON.

Now it is possible to open the G3P Serial software and establish the serial connection.

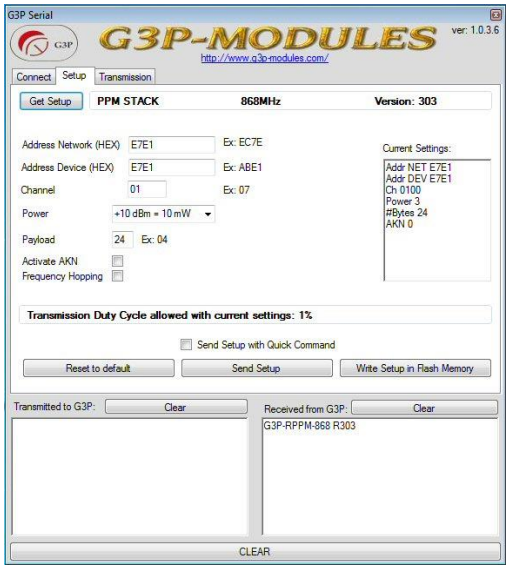


Click here to establish the serial connection.

Be sure the selected COM is the one of the Starter Kit and the default speed set by the factory is 9600 baud.

3.2 – Configuring the G3P module

When the serial connection has been establish then a tab “Setup” appear:



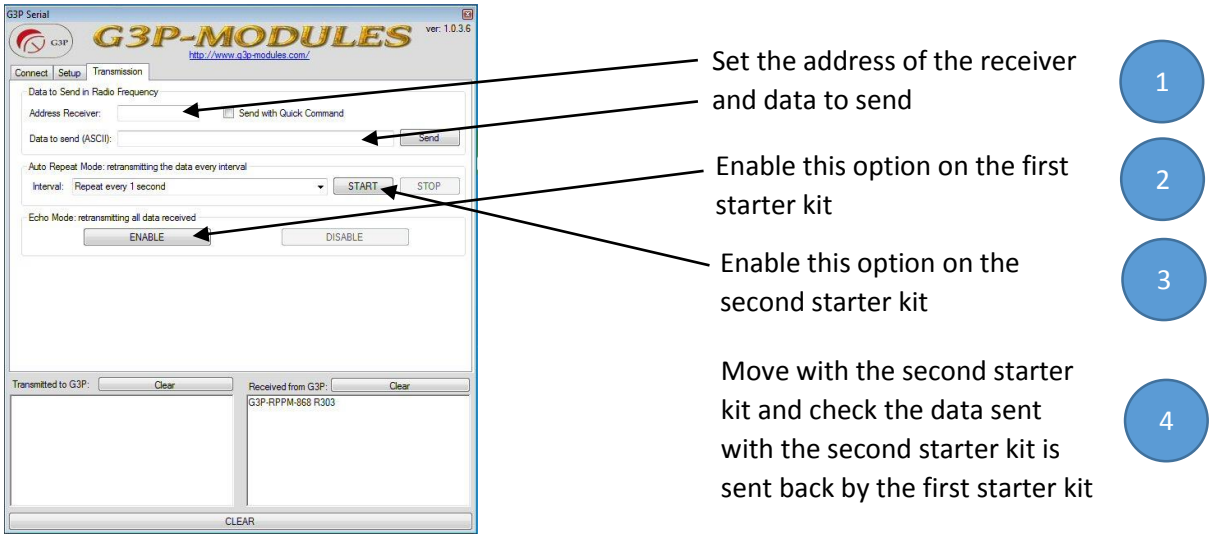
Clicking on the button “Get Setup” the module will send its current setting and tab “Transmission” appear.

Into this tab it is possible to give all configuration to the G3P module. After have set the wanted configuration it is possible to send all with the command “Send Setup” and to make the setting permanent click then on the command “Write Setup in Flash Memory”.

On the field on the left bottom all command sent to send the setup will appear, that list of command is the same list of ASCII command you have to give in case you use another serial terminal or a microcontroller.

3.4 – Distance test

The tab “Transmission” is the tab where you will experiment the wireless communication with another G3P module.



Two useful tools are here, the “Auto Repeat Mode” and “Echo Mode”.

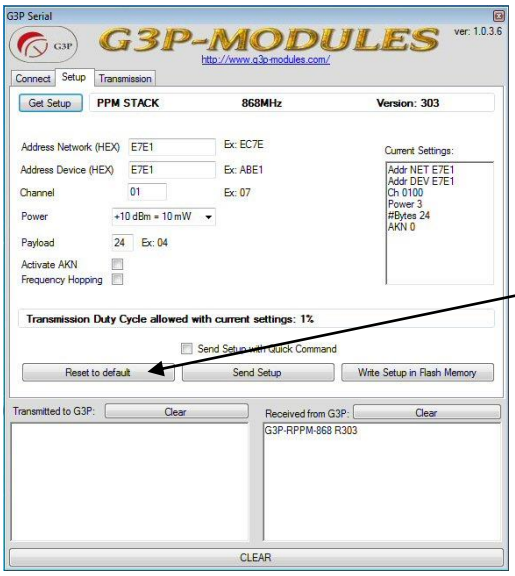
Enabling, on the first Starter Kit the “Echo Mode” and on the second the “Repeat Mode”, it is possible to check the successful transmission between the two modules.

This will give the opportunity to move (with a laptop) with the second starter kit around the first one and see in which range there is a successful transmission.

4 – Reset the G3P

4.1 – Reset the module with default factory settings

To reset with the default factory settings the G3P module it is necessary to use the G3P Serial:



Click here to restore the default factory settings

Clicking on the command “Reset to default” the default factory settings will be restored and will be permanent; then press the button “SW1” on the Starter Kit board.

4.2 – SW1: RESET button

The “SW1” button is the reboot button, when is pressed it will make the G3P module to reboot immediately.

5 – Physical Dimensions